

NSW Climate Summary - June 2016

Summary

Seasonal Outlook	Current outlook
Rainfall (quarter)	Wetter
Max Temperature (quarter)	Cooler (western, central and southern NSW, areas of north west, central & southern tablelands) Near neutral (eastern NSW, northern slopes, northern tablelands, Hunter valley) Warmer (far south east, areas of coastal strip of Illawarra, central & far north coast)
Min Temperature (quarter)	Warmer (most of NSW) Near neutral (far west)
ENSO	Current outlook
ENSO (overall)	Neutral La Niña possible in winter/spring
ENSO Outlook Status	La Niña watch
SOI	Neutral
Pacific Ocean (NINO3.4)	Neutral (likely to be cool in winter/spring)
Indian Ocean (IOD)	Neutral (DMI value currently negative, negative IOD likely in winter) Warm Indian Ocean sea surface temperatures
Southern Annular Mode (SAM/AO)	Weakly positive, trending to weakly-moderately positive

Source: Derived from information provided by the [Australian Bureau of Meteorology](#) and the [US National Oceanic & Atmospheric Administration](#).

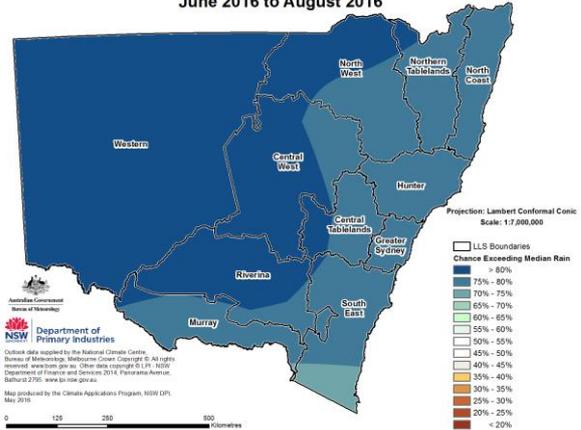
Seasonal outlook

(Source: [Bureau of Meteorology](#))

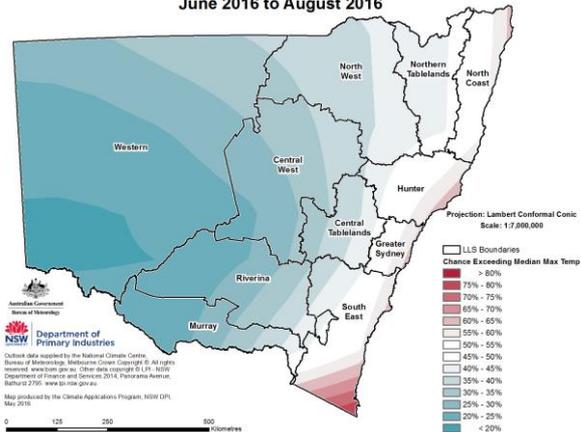
Between June and August, wetter than normal conditions are likely across NSW.

Cooler than normal daytime temperatures are likely across most of western, southern, central and north western NSW. There is a near-equal chance of cooler or warmer than normal daytime temperatures across most of eastern NSW. Warmer than normal daytime temperatures are likely across limited areas of the coast and the far south east. Overnight temperatures are likely to be warmer than normal across most of NSW, with a near-equal chance of cooler or warmer than normal conditions in the far west

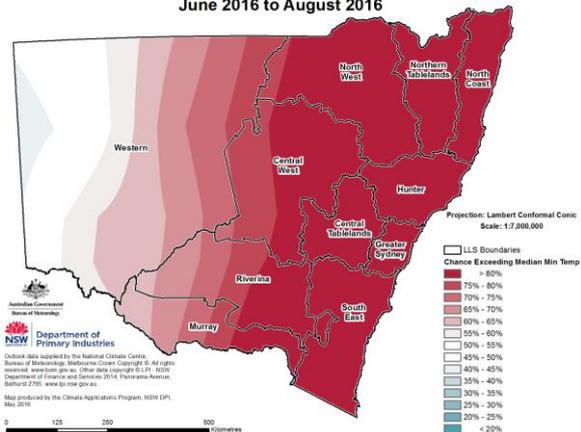
Chance of Exceeding Median Rainfall
June 2016 to August 2016



Chance of Exceeding the Median Maximum Temperature
June 2016 to August 2016



Chance of Exceeding the Median Minimum Temperature
June 2016 to August 2016

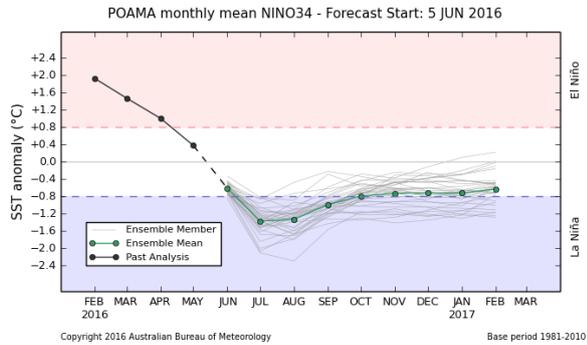


The seasonal outlooks presented in this report are obtained from the Australian Bureau of Meteorology & other sources. These outlooks are general statements about the likelihood (chance) of (for example) exceeding the median rainfall or minimum or maximum temperatures. Such probability outlooks should not be used as categorical or definitive forecasts, but should be regarded as tools to assist in risk management & decision making. Changes in seasonal outlooks may have occurred since this report was released. Outlook information was up to date as at 10 June 2016.

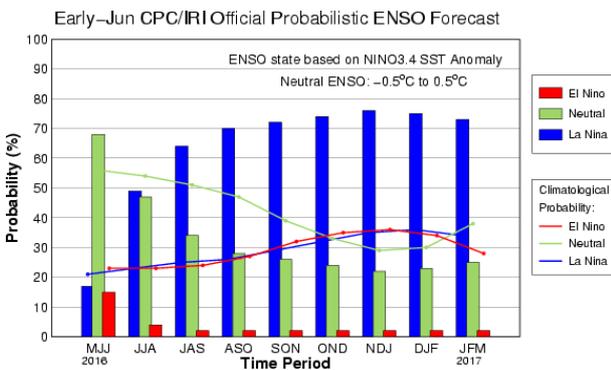
ENSO

(Source: Bureau of Meteorology & International Research Institute for Climate and Society)

The Pacific Ocean has returned to an ENSO-neutral state. Sea surface temperatures in the central and eastern-central equatorial Pacific are now at near-normal levels. A La Niña event remains possible in winter-spring. The ENSO outlook status from both the Bureau of Meteorology and the CPC/IRI remains at 'La Niña watch'.



The Bureau of Meteorology's latest POAMA outlook (as at 5 June) suggests that the sea surface temperatures in the NINO3.4 region will reach La Niña levels in June and then return to borderline neutral levels in October. The current CPC/IRI ENSO forecast probabilities suggest a high likelihood of a borderline to weak La Niña event occurring during winter-spring. Many of the dynamical models surveyed by CPC/IRI suggest this is likely in winter, but most statistical models suggest a later onset with ENSO-neutral conditions during winter. Note that the CPC/IRI use different thresholds for El Niño and La Niña events to the Bureau of Meteorology.



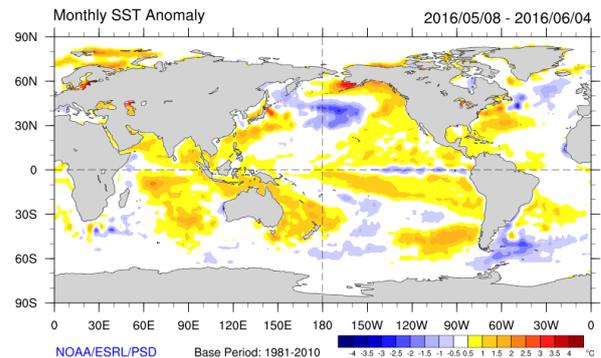
Of the eight climate models surveyed by the Bureau (as at 16 May), two indicate NINO3.4 sea surface temperatures are likely to be at La Niña levels in June, and five to six during August and October.

Sea Surface Temperatures

(Source: NOAA & Bureau of Meteorology)

Sea surface temperatures returned to near normal across most of the equatorial Pacific during May. Temperatures are now neutral in all the NINO regions. A line of cooler than normal water is snaking across the equator from Ecuador towards the International Date Line.

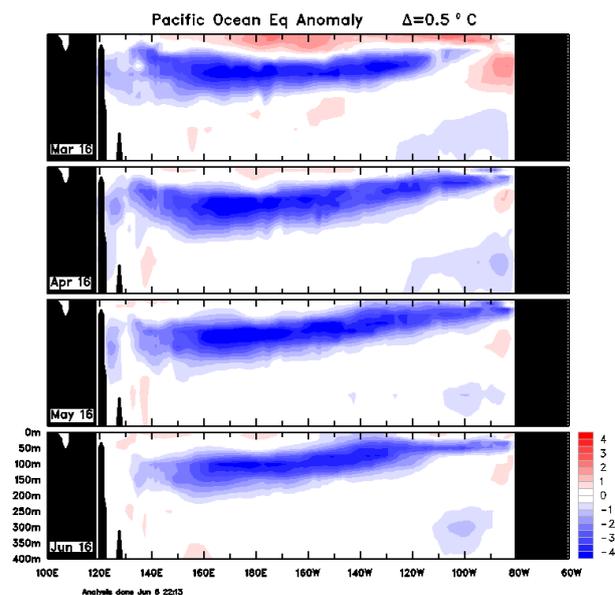
The most recent weekly temperature anomaly value in the key NINO3.4 region was +0.09°C in the week to 5 June, down from +0.78°C in the week to 8 May.



Monthly Sub-surface Temperatures

(Source: Bureau of Meteorology)

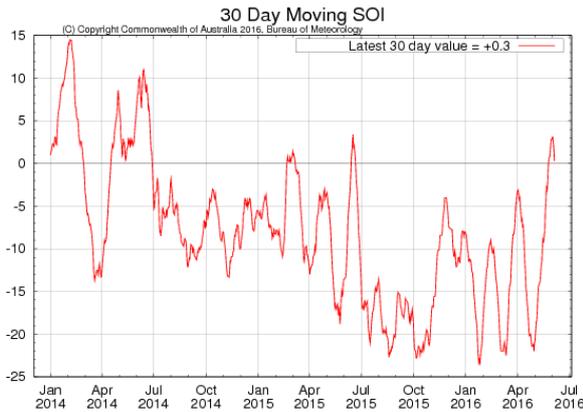
The sub-surface sea temperatures show the El Niño warm anomaly in the central and eastern equatorial has now disappeared. The cool anomaly at depth has reached the surface in the eastern and eastern-central Pacific. The strength of the cool anomaly indicates the possibility of a La Niña event developing.



Southern Oscillation Index (SOI)

(Source: Bureau of Meteorology & Queensland DSITI)

The Southern Oscillation Index (SOI) rose rapidly during May and into early June, but has declined slightly since. It is currently neutral. On 5 June, the 30-day SOI value was +0.3 (Bureau of Meteorology) and the 90-day SOI was -6.41 (QDSITI).



Values between -7 and +7 indicate neutral conditions, sustained values above +7 may indicate a La Niña event, and sustained values below -7 may indicate an El Niño event.

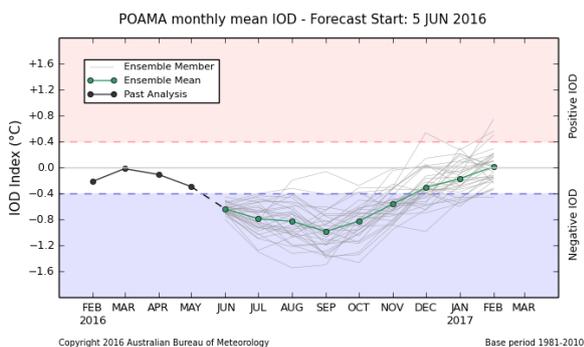
Indian Ocean Dipole (IOD)

(Source: Bureau of Meteorology)

The Indian Ocean Dipole (IOD) is neutral. The Dipole Mode Index (DMI) value was -0.65 for the week to 5 June. A negative IOD together with the warm sea surface temperatures across much of the Indian Ocean are also likely to provide sources of moisture for eastern Australia.

Three of four climate models surveyed by the Bureau of Meteorology on 16 May indicate the likelihood of a negative IOD event occurring in June and four by August. All suggest such this event is likely to continue into October.

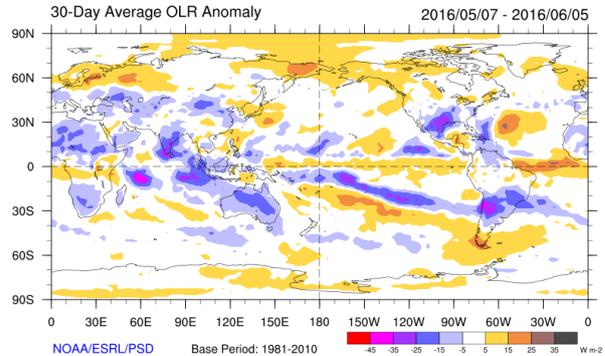
A positive IOD increases the chances of below normal rainfall and may exacerbate the effect of an El Niño event over south eastern Australia. A negative IOD increases the chances of above normal winter and spring rainfall across southern and much of western and central NSW.



Cloudiness and trade winds

(Source: Bureau of Meteorology & NOAA)

Levels of cloud at the junction of the International Date Line (IDL) were near normal to slightly less than normal during May. Cloud levels increased over western Indonesia and Australia.



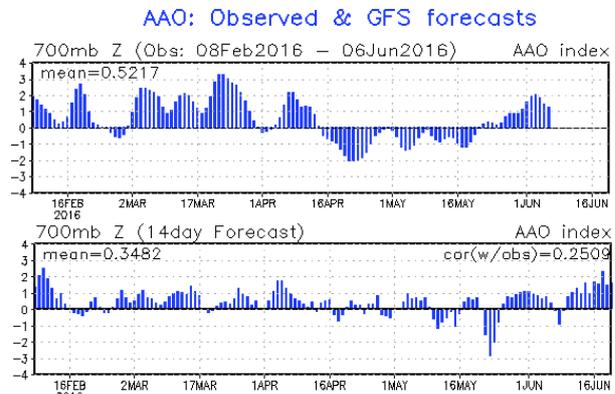
Trade winds were near-normal across the equatorial Pacific during May, with a slight reversal in early June.

Southern Annular Mode (SAM)

(Source: NOAA)

The experimental Southern Annular Mode or Antarctic Oscillation (AAO) index was weakly positive at 6 June, after being weakly-moderately negative in late April and most of May.

The outlook is for a weakly-moderately positive SAM during mid-June.



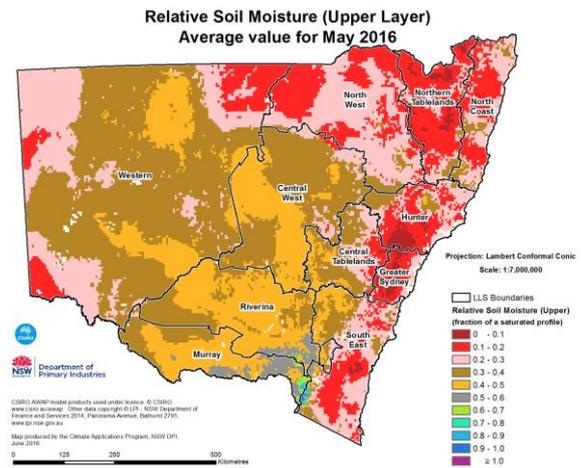
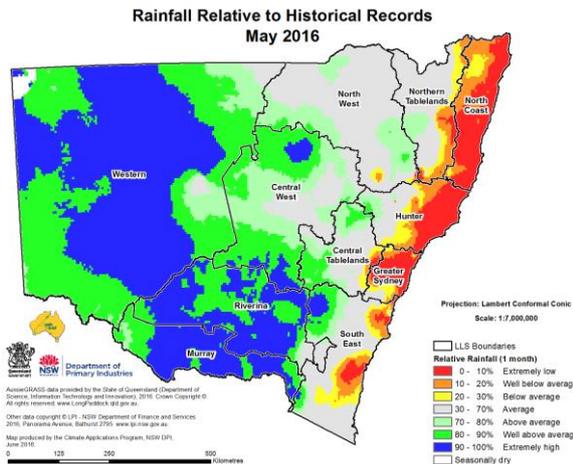
A negative SAM indicates expansion of the belt of strong westerly winds towards the equator, resulting in more or stronger low pressure systems across southern Australia and potentially increased rainfall. A positive SAM indicates the contraction of the belt of westerly winds towards Antarctica and higher pressures over southern Australia, and can result in stable, drier conditions. A strongly positive SAM in spring-summer can mean southern Australia is influenced by the northern half of high pressure systems, leading to a slightly higher likelihood of increased rainfall over south eastern and central NSW.

Conditions during May

Rainfall

(Source: Queensland DSITI)

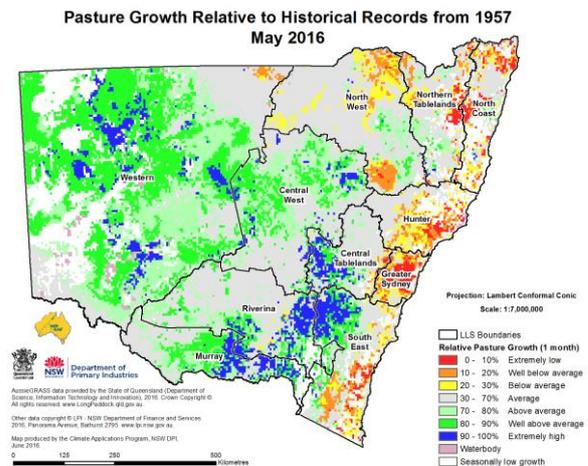
Rainfall across NSW ranged from 3-325 mm during May. Most of the state received 25-100 mm, with lower falls across the coast. Relative to historical records, 68 per cent of the state received above average rainfall, covering most of western, southern and central NSW. Near average rainfall occurred across the north west and northern tablelands. Rainfall was below average across most of the coast, Sydney basin and lower Hunter valley.



Pasture growth

(Source: Queensland DSITI)

During May relative pasture growth was above average across much of the west, central west, eastern Riverina, far south and areas of the central and southern tablelands. It was average across much of the north west and northern tablelands, but below average to average across the coast and Hunter valley. Other pasture growth models indicated better growth across western, southern and central NSW but lower growth along the coast.



Soil moisture

(Source: CSIRO)

Modelled topsoil improved across western, central and southern NSW during May. Levels over the north west and northern tablelands remained low-moderate, but low on the coast. Relative to historical records, topsoil moisture levels were above average across the west, central west and south. Levels across the north west, upper Hunter valley and central and southern tablelands were average, but below average over the coast and northern tablelands. Subsoil moisture levels improved over western, central and southern NSW, but declined in the east and north. Relative subsoil moisture was near average across most of NSW but below average across the south, north west, tablelands and north coast.

More information

For more information, contact the NSW Department of Primary Industries on 02 6391 3100 or Local Land Services on 1300 795 299. Additional and more detailed information on seasonal conditions can be found in the NSW Seasonal Conditions Summary and Report, available at <http://www.dpi.nsw.gov.au/agriculture/emergency/seasonal-conditions/regional-seasonal-conditions-reports>, and the LLS On-ground Seasonal Conditions Reports available at <http://www.ils.nsw.gov.au/agriculture/seasonal-conditions>.

Acknowledgements

Information used in this report was sourced from the Australian Bureau of Meteorology, CSIRO, Queensland Department of Science, Information Technology and Innovation, the US National Oceanic and Atmospheric Administration, the International Research Institute for Climate and Society (Columbia University) and NSW Department of Primary Industries.

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